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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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CLINICAL REPORTS.

When speaking of clinical reports, the late Mr. William Hunting often repeated a maxim worth remembering. "Any case which interests the man who sees it is certain to interest some other men if they can read a report of it." That is very true; and one proof of its truth is the fact that very often the report of a clinical case induces its readers to communicate other more or less similar ones. We have an instance of this to-day. Last week Mr. Alexander recorded a case of spasm of the diaphragm in the horse; and this has led Mr. Hare to add another of the same condition in the ox—a distinctly rarer case, for cattle seem much less liable to the affection than horses. A study of any medical or veterinary journal will tell the same story—the publication of one case will bring out others. This shows that, whatever else in journals interests practitioners, clinical reports always do.

All members recognise this; but very few will take the slight trouble of doing their own share in case reporting. The profession has advanced greatly in many respects; but the poverty of its clinical records remains—now as always—a disgrace to it. Most men record nothing throughout their lives; yet every one could often report something which, in Mr. Hunting's words, has interested him and is sure to interest some others. If only a small proportion of our members would lay the saying we have quoted to heart and act upon it, two results would follow. They, personally, in return for their little trouble, would draw the experience of others in response to their own, and would have the consciousness of doing something for the profession. And the profession itself would gain what it has never yet had—a clinical literature worthy of it.

NEXT YEAR'S REGISTER.

As is usual at this time of the year, the Registrar asks all members to notify him of their own changes of address or those of others within their knowledge. Very few words are necessary to urge this request upon our readers. There are always some members who are careless as regards their addresses; and the Registrar cannot succeed in tracing them all unless he is helped by the profession. That is true at all times, and especially so just now; for there have been more changes of address than usual during the last three months. All who know of such should report them to the Registrar without delay.

RUPTURE OF THE ANTERIOR VENA CAVA.

The subject was a mongrel bitch about four years old. The owner stated that during the past three months he had lost pigs and fowl and he suspected poison. His fears were, in his opinion, confirmed when his favourite dog entered the room and dropped dead at his feet.

Post-mortem was made four hours after death.

The contents of the abdominal cavity were normal. The chest cavity contained a great quantity of blood. On further dissection a rupture 1.5 cms. in length could be observed in the anterior vena cava three cms. from its origin. There was a large swelling in the œsophagus, which on examination proved to be an abscess in the muscular coat. It may be that the pressure of this swelling on the vein was the cause of the rupture.

FRANK CHAMBERS, M.R.C.V.S., G.V.S.
Maramba Laboratory, P.O. Livingstone,
Northern Rhodesia, November 9th.

SPASM OF DIAPHRAGM IN A BULLOCK.

I was interested to read Mr. Alexander's report of a case of above occurring in a horse. The condition is by no means uncommon, and when in charge of a large stud of horses in London some years ago I was called to attend about a dozen cases in one afternoon, and I can well recollect my first case puzzled me a good deal. The stud in question being subject to frequent changes both in quantity and quality of food, digestive troubles in various forms were constantly present. I always, rightly or wrongly considered spasm of the diaphragm to be due to some digestive disturbance. Up to yesterday, I had not come across a case affecting cattle.

Last evening I was summoned to attend a stall fed bullock, in forward condition, described as having "a heavy pant on him." I had no difficulty in diagnosing the trouble, the symptoms being well marked. The bullock was blowing very hard, as in a case of lung congestion, but there was also present the unmistakable thump, thump, due to spasm of the diaphragm. The symptoms had come on suddenly, the animal being quite well at mid-day. Temp. 102, bowels and kidneys acting normally, but appetite and rumination had ceased. A bottle of Elliman's Embrocation had been rubbed in over the region of the lungs. There was no distention of rumen. I put the cause of the trouble down to over-feeding on turnips, and gave as a drench—

℞ Ammon. Carb.	ʒii.
Sodii Bicarb.	ʒiv.
P. Nucis Vom.	ʒi.
P. Zingiber	ʒi.

To be given in a quart of warm gruel and repeated in three hours. Solid food and turnips withheld, and mashes and warm drinks to be offered. Bullock was reported quite well this morning, to the great relief of the owner, who had been much alarmed.

J. B. HARE, M.R.C.V.S.

Navan.

THE SURGERY OF FISTULOUS WITHERS.

Early this year, at the Sixth Veterinary Conference at Ithaca, New York, W. L. Williams and J. N. Frost presented an important communication on this subject. Its main points are here summarised. After enumerating the very diverse lesions met with in fistulous withers, the authors proceed to a revolutionary classification of the disease into two forms, viz., typical and atypical.

Atypical fistulous withers comprises those cases which have a definite clinical history or present clinical evidence of mechanical injury. Among these injuries are contusions or abrasions upon or near the summit of the withers caused by the saddle or harness. These contusions are followed, as a rule, by necrosis of the skin, suppuration, and an extension of the necrotic and suppurating processes to the ligaments and other tissues of the part, often burrowing more or less deeply into the neighbouring structures and proving very resistant in healing. While admitting that this group of cases constitutes the classic type of fistulous withers described by veterinary authors, the present authors nevertheless regard it as atypical.

The second group, which the authors designate Typical fistulous withers, includes 97 % of the cases in their clinic. (It should be noted that their clinic is essentially rural. They remark that they probably see a far larger proportion of "typical" cases than is observed in large cities.) In these cases the disease has a typical point of origin and a fairly typical course. The cases present no history of mechanical injury, and no clinical evidence that any mechanical injury has occurred. In these cases the disease always arises in the fenestrum or foramen of the ligamentum nuchæ. This fenestrum does not seem to have yet been clearly described by veterinary anatomists. Some do not mention it at all; others apparently confuse it with the supra-spinous bursa which is found from over the third to over the fifth dorsal spinous process, and which, in its turn, has not been noticed by all anatomists.

The fenestrum of the ligamentum nuchæ is a distinct structure. It consists of a round or oval opening between the base of the lamellar and round portions of the ligamentum nuchæ, just above and slightly anterior to the summit of the second dorsal spinous process. It is surrounded everywhere by the yellow elastic fibres of the ligamentum nuchæ, and at no point does it come into contact with the vertebral spines. It does not connect with the supra-spinous bursa mentioned by so many writers except under pathological conditions. Indeed, the authors think that the supra-spinous bursa is itself a pathological condition; for it is not always found, and is more uniformly seen in old than in young horses. On the other hand, the fenestrum of the ligament is constant from the time of birth throughout the life of the animal.

The "typical" form of fistulous withers originates with great uniformity in this fenestrum, by the accumulation within it of a peculiar fluid. This substance consists of a pale yellowish or reddish, limpid or syrupy fluid. It generally contains some pale yellow, smooth, tough discoid masses 1/8-1/4 inch in their greatest diameter. The character of this substance is not known. It is not observed elsewhere in the body except in the analagous lesion at the poll.

When the fluid forms in the fenestrum, its ligamentous walls are inextensible and the contents cannot find exit readily except laterally. It cannot escape readily in an upward direction, because there the two halves of the round ligament are quite firmly adherent. On either side, the yielding to the pressure of the lymph from within is obstructed in a measure by the cervical portion of the rhomboideus muscle, which extends directly over the fenestrum.

The fluid content pushes this muscle aside, usually upward, so that the mass protrudes on either or both sides of the neck just beneath the rhomboideus muscle. If the sac be incised, the operator can pass his fingers through the fenestrum to the opposite side of the neck without resistance, as the fatty and cellular mass formerly filling the fenestrum has undergone dissolution and disappeared. As the fluid is powerless to cause necrosis of the skin, it never ruptures upon the surface except when it becomes infected and purulent.

When an abscess forms in the fenestrum, it has full power to create an exit for itself. Before it points completely and ruptures externally, the pus may be forced in a variety of directions, and thus greatly complicate the lesions. The authors discuss the diverse lesions which may be produced in accordance with the directions in which the pus has burrowed, in some detail; and then, before proceeding to describe their method of operation, they indicate two peculiar lesions which that operation reveals.

In examining the tissues of the part after operative interference, the authors quite generally find that the ligamentum nuchæ in the region of the fenestrum has undergone more or less extensive calcareous degeneration. The ligament may be undergoing gross disintegration at some part, so that it is readily recognised by either sight or touch as naked, soft, and fibrillar. It appears that calcareous degeneration of the ligamentum nuchæ constitutes a basic lesion of the disease. At least, in a large proportion of dissection subjects which are without evident fistulous withers, numerous calcareous nodules exist in the ligament surrounding the fenestrum and at the poll. The authors do not

know the cause and nature of this calcareous degeneration; but they find it a formidable obstacle in the treatment of fistulous withers.

The second peculiar lesion revealed by the operation is that in many cases there are found, loosely embedded in the cellulo-adipose tissue occupying the fenestrum, firm nodules varying from ¼ to 1 inch in diameter, which, when incised, are found to contain a yellowish-gray, dry, amorphous mass, appearing necrotic, and invested in a firm, thin connective tissue capsule. Their true character and mode of origin are unknown.

The authors then describe their method of operating, which is essentially the same as that which they recommended in 1903 for poll evil. It consists in operating upon the median line; and, though it has yet been tried upon a few horses only, the results have been very satisfactory. The horse is secured anæsthetised, and the region is denuded of hair and well cleansed. An incision is then made upon the median line through the adipose base of the mane, down upon the ligamentum nuchæ at about the position of the second dorsal spine, and carried forward for a variable though adequate distance. It is aimed to direct the incision immediately upon the median line, and when the ligament is laid bare, to separate the two halves with a minimum amount of injury to the ligamentous tissues. The division between the two halves of the round portion of the ligament is carried freely into the fenestrum, and thence forward for a satisfactory distance, according to the case. So far, in the authors' cases, an incision approximately 8 to 10 inches long has been necessary. The wound lips may then be easily parted by retractors, so that the sac formed in the fenestrum is opened freely to the eye. The authors next remove all recognisable necrotic portions of the round ligament and other badly diseased tissues. In one case they have completely removed 7 or 8 inches' length of the round portion of the ligament without material deformity resulting, They take special pains to remove all recognisable calcareous or necrotic portions of the ligamentum nuchæ. They then sometimes find it necessary to carry the incision through the adipose base of the mane well forward, and then make a lateral incision an inch or two deep to permit good drainage. Other lateral openings may be required for drainage.

After the operation, the wound is packed with antiseptic gauze, and sutures are applied Twenty-four hours later the sutures and pack are removed, and the wound is cleansed and dressed dry. Later treatment consists in wiping away any wound discharges with dry cotton or gauze and dressing dry, care being taken that water dees not touch the wound surface. So far, the results have been highly satisfactory. At first the wound gapes enormously, but it begins to retract in a few days. Most portions of it are granulating healthily in from 7 to 10 days, and parts which are not granulating properly are readily observed. If the calcareous degeneration of the ligament has extended beyond the operation, the authors find that a second operation is very simple, as the ligament is readily exposed to view. They find also that the ligamentum nuchæ, when fully exposed, heals far more readily than in the older plans of operation, where the necrotic ligament was left hidden.

The authors further discuss some of the operative modifications which may become necessary in dealing with extensions of the diseased process into different anatomical regions. This exposition is largely theoretical; for their experience of the operation is still small, and they have not yet encountered all the complications that may be met with. But, so far, their experience has led them to place very great confidence in the operation and has convinced them that it will be a distinct advance over prior methods. Many of the details in special cases must later be worked out as met.

ABSTRACTS FROM FOREIGN JOURNALS

Two Cases of Dislocation of the Neck with Recovery.

Von Paris reports (*Zeit. f. Veterinark*) the two following cases.

He was called to a pregnant mare, and found her lying unconscious on the right side. The breathing was dyspnœic, snorting, and occasionally rattling. The pulse was 32 to 35 per minute, and the temperature was normal. Further examination revealed dislocation of the cervical vertebral column at the boundary between its upper and middle thirds. The left side of the neck showed a deep concavity, and the right side a hard convexity almost the size of a child's head. The animal did not react to sounds or pin-pricks, but attempts to straighten the neck caused convulsive muscular spasms extending over the whole body. It was found possible to raise the mare and put her into slings; and she then took some food and showed attention to her surroundings.

The next day the neck could be forcibly straightened without especial difficulty; but, when the force used to straighten it was withdrawn, it immediately relapsed to its abnormal position.

An attempt was now made to fix the neck in its normal direction by means of an appropriate binding of the animal to the right side and the application of a padded neck harness. The attempt lasted three weeks, and was suspended at the expiration of pregnancy, when a normally formed, healthy foal was born. The treatment had brought no result, and neither did further attempts which were undertaken a fortnight after the parturition. Three months after the accident no alteration in the condition had been attained; and a further course of four weeks' treatment at a veterinary clinique was equally unsuccessful.

The mare was now harnessed and used for work in the field, without regard to her condition. Six months later, without further treatment, the first signs of improvement appeared; and after nine months the neck was normal as regards both direction and movability.

In a second horse, dislocation of the neck had occurred at the same place. The symptoms were

similar to those described in the first case. An apparatus consisting of two padded boards was applied to the neck to maintain it in a straight direction; and recovery took place after some weeks.—(*Münch. Tier. Woch*).

Paralysis of the Rectum.

Schäfer records (*Zeitschr. f. Veterinär.*) the case of a working horse, thirteen years old, which was sharply blistered on one fore limb on account of chronic inflammation of the tendons. After the animal had been resting for four or five weeks, it was seen to be straining to defecate and to be unable to accomplish the act. Manual exploration revealed the rectum to be widely dilated and tightly filled with firm, foul-smelling fæces. After the fæces were removed a sac-like dilation of the pelvic portion of the rectum remained, attaining the size of a man's head, and situated immediately in front of the brim of the pubis. It was necessary to remove the fæces by hand several times daily. After massage of the rectum had been practised for eight days without result, the injection of strychnine in doses of ·05 gramme (=about $\frac{3}{4}$ grain) was tried. The injections were given every third day. After the tenth injection the introduction of the hand into the rectum stimulated pressure from the abdomen sufficient to expel a portion of the fæces. After another ten injections, the animal was able to expel small quantities of fæces without help. The sac-like dilatation of the rectum had now decreased in volume.

After the thirtieth injection complete defecation could be accomplished without assistance. Another ten injections were given, and the cure was complete.—(*Munch. Tier. Woch.*)

Leishmania Braziliensis as a Parasite of Unstriped Fibres.

Dr. Alexander Pedroso, who for a long time has studied Brazilian Leishmaniosis, has found it in dogs. He has already recorded (*Annaes Paulistas de Medicina e Cirurgia*) the lesions found in the first dog he observed. In this case, in addition to a portion of the upper lip, the nostrils and nasal cavities were attacked and the septum nasi was partially destroyed. The dog had contracted the disease from its owner, who was himself affected; and the lesions in the dog resembled those seen in mankind. In another dog from the same locality (in which Leishmaniosis was very common a few years ago) similar lesions were found; and Pedroso, by microscopical examination, was able to find the parasite in the tissues and confirm the clinical diagnosis.

Dr. Gaspar Vianna, while studying a section from the nasal mucous membrane of the dog in which Pedroso first demonstrated the presence of the parasite, has now carried the subject a step further. In addition to confirming Pedroso's findings, he observed a localisation of the parasite which has not yet been described. He considers this localisation important both as regards the development of the disease and the biology of the parasite; and he remarks that its discovery brings the parasite nearer to the genus *Trypanosoma*.

In a small muscular artery, which was surrounded by tissue poor in parasites and was comparatively far removed from the ulcerated regions, Vianna found unstriped muscular fibres which enclosed specimens of *Leishmania*.

The parasites were not numerous in the muscle cells, and the number of cells attacked by them was small.

Vianna found only four infected cells in the section of the vessel, and the most seriously infected cell contained only three parasites. The individual parasites lay sometimes in the peripheral zone of the cells, somewhat inwards from the cell-sheath and in the differentiated portion of the protoplasm, and sometimes near the nucleus in the undifferentiated portion.

The affected cells stained well; and no processes of degeneration could be recognised in them. One cell only showed an alteration in the form of the nucleus, probably attributable to the parasites. The parasites showed the ordinary formation of nucleus, blepharoplast, and protoplasm. One specimen seemed to be commencing division.

The vessel wall showed no alteration beyond that described, and there were no signs of arteritis.

These results show that the alterations in Brazilian Leishmaniosis are more extended than one would suppose; and they also indicate the motility of the parasite. The penetration of the parasite into the unstriped muscle fibre may be explained by one of two hypotheses, viz.: amæboid movements of the parasite, or the presence of a flagella-bearing phase in its life-history.—(*Memorias do Instituto Oswaldo Cruz.*)

W. R. C.

On the Inspection of the Carcases and Organs of Tuberculosis Animals for Food.* [Abstract].

Report by Mr. Hj. Hansson, Veterinary Officer of Health, Stockholm.

Unquestionably tuberculosis ranks first amongst the morbid changes which occur in the carcases of animals, and plays a more or less important part in the modern inspection of meat. This is shown by statistics from public slaughter-houses and other controlling centres for inspection. Quite recently several of the most prominent amongst the veterinary profession have devoted much time and trouble to the solution of the problem of judging, and the investigations have given us the certainty that to a great extent the old principles must be dispensed with.

The fundamental question of the whole judging of tuberculosis is if cattle-tuberculosis is transferable to man and if it can produce illnesses of a serious nature in them. Since the German and English tuberculosis committees have clearly proved the transmissibility to human beings, and, above all, since the English committee has established, that almost 50 per cent. of the investigated cases of intestine or mesentery glands tuberculosis in children, which have proved fatal, the tubercle bacillus producing the illness have solely been

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those of the bovine type, it will be naturally understood that some forms of tuberculosis demand far-reaching measures for the prevention of such meat being circulated without any restriction.

When must the meat of a tuberculous animal be considered as unfit for human food? Before I can enter into this question I will lay before you the principles, which during the last years have generally been accepted. Since Weigert from a purely pathologic-anatomical point of view has defined the conception of local and general tuberculosis, the merit of having brought order and clearness in the judging of tuberculous meat is due to Johne, who established the principle: The generalization of tuberculosis proves that the infective matter spreads in the blood and infects the meat, therefore it must be considered as harmful for human food; but purely local tuberculosis does not prevent the meat from being passed after the infected organs or parts have been destroyed. After it had been proved through the investigations of Nocard that tubercle bacilli circulating in the blood retain their virulence at the most five or six days, and that consequently in case of only one generalization after that interval, no tubercle bacilli can circulate in the blood in such a case, and after it had proved by Hartenstein that tuberculous changes in one part of carcase may not necessarily be a sign of the whole carcase being injurious to health, the suggestion of Ostertag was, that in the case of such a completed generalization only that part of the carcase with the lymphatic glands belonging to it, where tuberculous changes had been ascertained, must be considered as injurious to health. These principles have upon the whole been employed up to now. Accordingly we pay more attention to the presence and degree of such tuberculous changes, which point out that an affection of the main blood circulation has once taken place, and also upon the places of these changes.

This basis for judging should naturally be correct under the conditions that the tubercle bacilli which have once entered the blood circulation, are either deposited in the muscles or continue to circulate in the blood with retained virulence.

Investigations during late years have clearly shown that the muscles and blood of tuberculous animals are, as a rule, free from tubercle bacilli even in cases where distinct signs of the generalizing of the tuberculosis were evident. On the other hand, several investigations have shown that any tubercle bacilli which have entered the blood cannot generally be found there longer than eight to nine days at the utmost after the inoculation.

The signs of generalization are, therefore, not so much to be considered as a proof that the blood,—and thus the meat—contain bubercle bacilli, but rather, that in the organism can be found one or several centres of such a propensity, that at a longer or shorter time previously they had caused generalization of the tuberculosis. It is therefore the duty of the practising meat inspector, to endeavour to find the source which has caused generalization, and to make sure if any tubercle bacilli continuously escaped into the main blood circulation and consequently infect the carcase. I believe that it is hardly possible to ascertain this in every case. In late veterinary literature we see several investigations with the purpose of clearing up which forms of tuberculosis tend to continually let out tubercle bacilli in the main blood circulation, as those of Bongert, Nieberle, Ishiwara, and others.

However, most of them have not tried to solve the question to the fullest extent, but have been satisfied with investigating the one or the other forms of tuberculosis and their propensities. For that reason I principally base myself upon the results of the investigations which, during the years 1912-13, have been made by my colleagues, Wall, Hülphers, and Brandt, in the laboratory of the public slaughter-house of Stockholm. In the yearly report of Stockholm's slaughter-house, detailed descriptions are given of these works, whose results form the basis of the new regulations for judging the meat with tuberculosis, issued by the Royal Board of Medicine in Sweden.

The 153 investigations which have been made comprise carcases of full grown cattle, calves and pigs with tuberculosis of various form and extent, and have been executed in the following way. From the right antiventricle of the heart, left ventricle of the heart, or from the axillary vessels, in most cases 2 c.cm. of blood were under the precaution of sterilizing sucked up through a suction pipe, and in order to avoid coagulation mixed with the same volume of 1 per cent. natrium citrate bouillon. This mixture is then injected subcutaneously on two guinea-pigs, each the half. After six or seven weeks they were tested with tuberculin in one of the foot soles, and those who reacted were killed. When both inoculated guinea-pigs failed to react, one of them was killed for post-mortem examination. If then tuberculous changes were indicated, microscopic spread preparations were continuously made, and only after tubercle bacillus having been discovered by colouring per Ziehl-Neelsen the diagnosis of tuberculosis was accepted.

Out of the twenty-seven cases of tuberculosis in cattle which were investigated during the year 1912, in ten cases the blood contained tubercle bacilli (=37 per cent.). In three cases the blood from the right antiventricle of the heart was used as inoculating matter, out of which one case of highly developed tuberculosis of the lungs and liver combined with centres of the size of a pea in one kidney gave positive result. In four cases of highly developed tuberculosis of the lungs inoculation was made with blood from the axillary vessels, and in two of these cases one of the guinea-pigs was tuberculous. In the one case it was a matter of highly developed acute miliary tuberculosis of the lungs together with tuberculosis of the pleura and peritoneum, but without signs of generalization. In the other case it was a chronic caseous pneumonia, together with highly developed tuberculosis of the pleura and peritonium, combined with tuberculosis of the liver. In twenty cases of highly developed tuberculosis of the lungs the blood from the left ventricle of the heart was used as injecting matter, and in seven of these cases the result of the injection was positive, out of which one case was highly developed acute miliary tuberculosis in the lungs and kidneys; in three cases there was widely extended chronic caseous pneumonia with tuberculosis of the pleura and peritoneum, together with signs of generalization in the kidneys or the udder; in three of the positive cases the tuberculosis was a local extended caseous pneumonia; in two of the cases combined with tuberculosis of the pleura. Out of the thirteen cases where the injections with blood from the left ventricle of the heart were negative, one case was highly developed acute miliary tuberculosis in the lungs with highly developed tuberculosis of the liver, combined with tuberculosis of the pleura and peritonium. In three cases there was an extended chronic caseous pneumonia with signs of generalization in the kidneys or bones combined with tuberculosis of the pleura in two cases. In seven cases there was local tuberculosis with extended chronic caseous pneumonia, combined with extended tuberculosis of the pleura in six cases, and of tuberculosis of the liver in one case. In two cases, finally, there was a slight caseous pneumonia, combined with tuberculosis of the kidneys in one of them.

In all the investigated cases the tuberculosis produced centres varying in size and age, and frequently with uneven jagged edges.

In five of the ten cases with positive results of injection the tuberculous centres were hard and calcified, whilst the others produced so-called soft-centres, so that

the latter cases cannot be regarded more than the other forms of lung tuberculosis spoken of, that the blood contains tubercle bacilli.

As shown [Tables are given] there has been no evidence of the spreading of the tuberculosis into the spleen of the animals in the researches made during the year 1913 as well as 1912.

The investigations made in 1913 gave a positive result in a less number of cases than the researches of 1912 and its explanation is possibly, that in the latter year, as a rule, the blood of the heart has been used as material of investigation, whereas in the former it was the blood from the axillary vessels, which, as known, contains a mixture of arterial blood with venous blood, this latter being prevalent in a greater degree. It may be possible, that a number of the tubercle bacilli, which the heart-blood contains, will be deposited in the capillaries of the extremity, so that the blood of the axillary vessels, which to a greater extent consists of venous blood, contains a smaller number of tubercle bacilli and that consequently only the infections of a high degree give positive result. As the results obtained are intended to serve as a basis for judging the fitness of meat for human consumption, it must be only the serious cases which we have to look for. Researches of Findel, Reichenbach and Alexander have, as known, proved that a far greater quantity of tubercle virus even in so susceptible an animal for tuberculosis as a guinea-pig is required to produce tuberculosis by feeding than it is by subcutaneous injection. Under such circumstances the blood of the axillary vessels, supposing that it contains a smaller number of bacilli than the blood from the left ventricle of the heart, must be more suitable as material of researches, because a positive result through the weaker blood-infections, which are certainly harmless, is in this way to be avoided.

As a general judgment it may be said that these researches, as well as the most of other authorities in the later years, show that it is only the cases of a more highly developed tuberculosis, which must be considered as the producer of blood and meat containing tubercle bacilli. Indeed, the one described case (No. 11) with a positive result of inoculation with the blood of the axillary vessels of a calf with extended tuberculosis of meat lymphatic glands, but without tuberculosis in the substance of an inner organ, makes an exception. Where the reason for the infection of the main blood circulation in this case is to be looked for, is impossible to say.

Amongst the various forms of tuberculosis it seems, that it is especially the more serious acute forms of tuberculosis of the lungs and of the kidneys and, perhaps, even of the udder, which seem to indicate that the blood contains tubercle bacilli. So the tuberculosis of the lungs must be considered as being acute in a high degree if the larger part of the substance in both lungs are full of close sitting centres in size of a hemp seed or smaller, or if, as to pigs, the substance of the lungs to the volume of at least twice the heart lobe is grey and indurated without caseous centres being noticeable to the naked eye, but, if such are visible, they are not larger than a hemp seed. The tuberculosis of kidneys must be considered as being acute in a very high degree, if numerous centres in size of a hemp seed, or smaller, are present in the substance of the kidneys. However, I do not consider that these forms of tuberculosis are alone sufficient to give a reason for the judgment of meat of a strict nature, as they do not in any way indicate the blood in every case of such a tuberculosis being the carrier of bacilli. If, however, highly developed tuberculosis of the lungs or of the kidneys is combined with tuberculosis in a high degree of the udder or tuberculosis of bones, of joints, or of the meat lymphatic glands, showing that the blood has really been the carrier of tubercle bacilli, there is every reason to suppose that the infection of the blood is without doubt continuously re-occurring, and then we are quite justified in preventing the meat with such tuberculosis changes being sold. The meat, however, of an animal in good or second-rate condition can be sold under the declaration—Freibank—or bearing the safety-stamp or any other mark of the hygienic inferiority of the meat after it has been sterilised and the organs and the affected parts have been thrown out. Even the highest developed forms of tuberculosis—emaciation not being present—do not prevent the meat being fit for human consumption after such a treatment as aforesaid. Such meat offers to all, certainly no danger with regard to tuberculosis to men.

If the tuberculosis is accompanied by emaciation, then, in any case, the meat is to be considered as unfit for human consumption, and must be thrown out, no matter whether the tuberculosis is highly developed or not.

I come finally to the question, what we must do with regard to judging of organs with tuberculosis. I wish to remind you that the researches which have been made for the purpose to ascertain the presence of tubercle bacilli in tuberculous organs, in the most cases have shown bacilli even in a case, where it was tuberculous only in the lymphatic glands belonging to that organ. On the other hand it is clearly proved that if tuberculous changes have been ascertained in an organ lymphatic gland, we never can be sure that there are no tuberculous centres in the substance of the organ. Under such circumstances every organ as well as the corresponding lymphatic glands, as it will certainly be understood, must be considered as being unfit for human consumption, as soon as tuberculous changes in either the organ itself or in its lymphatic glands have been ascertained.

From what I have said above, and also taking in consideration the researches made in Stockholm's public slaughter-house, I consider that we, in determining the safety of the carcases and the organs of tuberculous animals for human consumption, must adhere to the following principles, which are almost identical to the regulations recently established for that purpose by the Royal Swedish Board of Medicine :—

(1) Only the tuberculous-changed organs or parts can be considered as being unfit for human consumption, when Nos. (2) or (3) are not applicable. An organ is to be considered as being tuberculous, if tuberculous changes are ascertained in either the substance of that organ or in the lymphatic-glands belonging to it.

(2) As unfit for human consumption must the carcase as a whole be considered (meat, bones, fat, intestines and blood) of an animal with tuberculosis combined with emaciation.

(3) The carcase of an animal as a whole may be considered as being safe for human consumption after sterilisation, and after the destruction of the organs and of the changed parts in cases of :—

(*a*) No calcified tuberculous changes in three or more meat lymphatic glands in different fourth-parts.

(*b*) No calcified tuberculous changes in a meat lymphatic gland, combined with highly developed acute tuberculosis of the lungs, or highly developed acute tuberculosis of the kidneys.

(*c*) Tuberculous changes in one bone or more, or in one joint, or in more, combined with highly developed acute tuberculosis of the lungs or highly developed acute tuberculosis of the kidneys.

(*d*) Highly developed tuberculosis of the lungs combined with highly developed acute tuberculosis of the kidneys or of the udder.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Animals.	Out-breaks (a	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered. *
GT. BRITAIN. Week ended Nov. 28	14	14			1	2			8	88	484
Corresponding week in 1913 ...	18	19			3	6	30	39	16	62	462
Corresponding week in 1912 ...	20	31			1	1	41	94	17	56	638
Corresponding week in 1911 ...	19	40			4	9			11	45	703
Total for 48 weeks, 1914	664	725	24	125	91	273	1547	2682	188	4056	37768
Corresponding period in 1913 ...	528	581	1	23	139	335	2210	4342	179	2334	29521
Corresponding period in 1912 ...	701	794	82	639	165	304	2635	5554	255	2728	37312
Corresponding period in 1911 ...	829	1034	18	467	197	477			358	2277	27733

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 2.
Board of Agriculture and Fisheries, Dec. 1, 1914

IRELAND. Week ended Nov. 28	...	...	...	...	...	...	Outbreaks 1	4	3	2
Corresponding Week in 1913 ...	...	...	...	...	...	...	...	13	1	...
Corresponding Week in 1912 ...	...	...	...	...	...	...	1	13	2	17
Corresponding Week in 1911 ...	...	...	...	...	...	...	1	5	5	3
Total for 48 weeks, 1914 ...	1	1	76	955	...	...	74	454	185	912
Corresponding period in 1913 ...	...	...	...	...	1	1	112	474	130	855
Corresponding period in 1912 ...	3	3	68	382	...	...	60	337	204	1652
Corresponding period in 1911 ...	9	16	...	...	2	3	54	309	148	2347

‡ The Parasitic Mange Order of 1911 has been suspended as from 6th August.
Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 30, 1914
NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

TUBERCULOSIS (IRELAND) ORDER, 1913.*

The following figures indicate the amount of work in the enforcement of the Order:—

Operations at Cattle Market (Dublin) from June to December, 1913.

Number of Suspects	227
Removed to Districts outside City	37
Slaughtered at request of owner	175
Post-mortem examinations made	175
Affected with Tuberculous Udder	2
Emaciated with Tuberculosis	4
Affected with Tuberculosis other than those coming under the two previous headings ...	15

Summary of Operations under the Order from June to December, 1913 (including Markets, Dairy Yards, Shipping, &c.)

Reported by Owner or Agent	12
Reported by Veterinary Surgeon in Private Practice	1
Number of cases dealt with suffering from Abnormal Udders or Emaciated	362
Slaughtered by request of Owner	224
Slaughtered by Local Authority	1
Post-mortem examinations made	†222
Animals showing Tuberculosis Lesions in Udder	5
Emaciated with Tuberculosis	8
Affected with Tuberculosis other than those coming under the two previous headings ...	21
Samples of Milk and Udder Secretion examined	52
Acid-fast Bacilli found on Microscopic Examination	4
Cases in which the Use of Milk for Human Food was Interdicted under the Order	46
Cases in which the Use of Milk for Human Food was Interdicted under the Public Health Act	3
Cases in which the Tuberculiu Test was applied	36
Positive Reaction to the Tuberculin Test ...	13
Animals sent from Shipping to Districts outside the City	8
Total of Animals sent to Districts outside the City	45

† In three cases animals had been removed before P.M.E. could be made.

* Report upon the Public Health in the City of Dublin for the Year 1913, by SIR C. A. CAMERON.

I would point out the fact that the Public Health Committee were strongly influenced by the Sealed Order of the 19th July, 1899, issued by the Local Government Board in regard to the Report of the Royal Commission on Tuberculosis. In this Order the Local Government amend Article 8 of the Sealed Order of 1879 as follows:—

ARTICLE 8.—SEALED ORDER, 1879.

If at any time disease exists among the cattle in a dairy or cowshed, or other building or place, the milk of a diseased cow therein

(a) shall not be mixed with other milk, and
(b) shall not be sold or used for human food; and
(c) shall not be sold or used for food of swine, or other animals, unless and until it has been boiled.

AMENDMENT.
ARTICLE 2.—SEALED ORDER. 1899.

Article 8 of the Order of 1879 shall be altered so that for the purpose of the provisions of paragraphs (*a*) and (*b*) thereof, the expressions in that article which refer to diseases shall include in the case of a cow such disease of the udder as shall be certified by a veterinary surgeon to be tubercular, and the Order of 1879, and the said General Orders under our Seal shall apply, and be construed with the modifications necessary to give effect to this Article.

Upon my recommendation the Council appointed Mr. Andrew Watson as a whole time Veterinary Officer. These duties Mr. Watson has carried out to manifest advantage, so that it will be noticed that the Public Health Committee had anticipated the Tuberculosis (Ireland) Order of 1913.

Horses v. Cycles in War.

A correspondent of *The Daily Mail*, Mr. W. Beach Thomas, contributes the following notes on the use of cycles in war:

"In the battle with the motor-tractor, and even the cycle, the horse has been defeated, they say. A Belgian cavalryman said to me that the Belgian Army would would have been much better off without any cavalry horses at all. In all seriousness he argued that the bicycle was a more effective mount, surer and faster and more mobile.

The Belgians have certainly done wonders with cycles. They are by habit great riders, and much of their country is without hills. He acknowledged, of course, that they could not on cycles—which had then entirely taken the place of horses—do the work of cavalry in charging. But in many countries mounted infantry may be much inferior to cyclists in fighting virtues. They suffer more. They are less adaptable and less quick. A Belgian will carry his cycle as easily as a knapsack. A company will, if need be, leave the road, slip across the fields, cycle on back, and be off on another road before you realise the manœuvre. The cyclists have fought some excellent rearguard actions, dismounting, firing a few volleys, and dashing off again, well bent over the handles, and where roads are at all concealed they are out of sight before the enemy have discovered where the volley came from.

In retreat they have covered amazing distances without serious fatigue or any loss. No one who saw them ride into Calais after a straight run from Antwerp at the time of its fall will ever forget the sight. They had travelled at a pace I hesitate to quote, and yet they arrived—for those who could look below the mud, which certainly was considerable—quite unwearied and undistressed. Thing of the state of horses after such a retreat.

Let us by all means praise the bicycle, but after all it seems to a mounted man the very depths of degradation to descend from the horse to the bicycle. Weeks ago I saw a detachment of a very smart cavalry regiment pedalling across Northern France as if they were a group of Polytechnic trippers. They were quite facetious and merry about the change, which was perhaps only temporary, but—"what a fall was there." The pomp and glory of war had clean gone. And the pomp means much. Wherever I have been the people talk of the English horses. "Such splendid horses; we have never seen anything like them!"

Personal.

ROBSON—BRADLEY.—On the 27th Nov., at St. Paul's Church, York Place, Edinburgh, by the Rev. Canon Reid, Samuel Robson, M.R.C.V.S., Edinburgh, youngest son of the late Christopher Robson, of Tupholme Hall, Lincolnshire, to Gertrude, sixth daughter of Charles Bradley, organist, Edinburgh.

ARMY VETERINARY SERVICE

Extract from *London Gazette*,
WAR OFFICE, WHITEHALL, Nov. 27.

REGULAR FORCES. ARMY VETERINARY CORPS.

To be temporary Lieuts.:—
F. S. Clay. Dated Nov. 9.
G. Barry. Dated Nov. 11.
W. P. Power. Dated Nov. 16.

Nov. 28.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. R. Porteous, from the half-pay list, is restored to the estab. Dated Oct. 27.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut.-Col. R. W. Raymond, retired pay, is appointed Assist. Director of Vety. Services to T.F.A. Dated Sept. 23.

Maj. G. Elphick to be Lieut.-Col. Dated Nov. 29.

Dec. 1.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Vet. Col. W. B. Walters, retired pay, is appointed an Assist. Director of Vety. Services to a T.F. Army and to be Col. Dated Aug. 29.

Vet. Col. J. C. Dwyer, retired pay, is appointed an Assist. Director of Vety. Services to a T.F. Army, and to be Col. Dated Sept. 1.

Lieut.-Col. W. D. Gunn, retired pay, is appointed an Assist. Director of Vety. Services to a T.F. Division. Dated Sept. 12.

Maj. A. W. Mason, F.R.C.V.S., retired list, is appointed an Assist. Director of Vety. Services to a T. Division, and is granted the temporary rank of Lieut.-Col. Dated Dec. 2.

Lieut. W. C. Prudames to be Capt.. Dated Oct. 22.

Lieut. W. A. Macgregor to be Capt. Dated Nov. 18.

OBITUARY

Mr. DENHAM ROBERT CHATTERLEY, G.V.S., Umtali, Southern Rhodesia,

Graduated, Lond: July, 1908.

It was with much regret that the news of the sudden death of Mr. Chatterley, M.R.C.V.S., was received by his colleagues and by the public who had known him during the four years he was in Rhodesia. On the expiry of his agreement, and on account of ill-health, he was on his way home when death overtook him whilst travelling to Capetown, and he was buried at De Aar. By this sad and untimely event a useful career is cut short, and his death will be widely deplored in Rhodesia.—*The Rhodesian Agricultural Journal.*

October, 1914.

WILLIAM EATON, Twyford, Melton Mowbray.

New Edin.: May, 1899.

Mr. Eaton's death occurred on 24th November, at the age of 47.

WILLIAM TEDLIE MOORE, F.S., Medical Hall, Letterkenny, Co. Donegal. Died on November 17th, aged 68.

Twenty-two applications for the post of Chief Veterinary Inspector in Edinburgh were considered at a meeting of the Public Health Committee of the Town Council on Tuesday, 24th ult., and the following leet of three was agreed upon for submission to the Town Council, who will make the appointment: Prof. Arthur Gofton, F.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh; Mr. James Henderson, M.R.C.V.S., assistant market inspector, Edinburgh; and Mr. James G. Reynard, M.R.C.V.S., York Place, Perth. The salary is £350 rising to £500.

REVIEW.

THE TREATMENT OF RHEUMATIC INFECTIONS. (Press of Parke, Davis & Company, 1913).

This is a small volume of some 130 pages, which is issued by Messrs. Parke, Davis & Co., from their own press. Its main interest is for the physician, but it is by no means without value to the veterinary practioner. A better title than the one chosen would be "The Treatment of Rheumatic Infections by Rheumatism Phylacogen," for that really represents the subject of the book. About one-fifth of the volume deals with phylacogens and phylacogen treatment from a general point of view—the nature of phylacogens, the pathological theory upon which their use is founded, their preparation and dosage, practical directions for their administration, and so forth—and this is the section which is of most value to the veterinarian. It will give him the knowledge which everyone should possess before attempting to use these agents, and which some who are thinking of using them perhaps lack. The remainder of the work is concerned with the treatment of human rheumatic infections with rheumatism phylacogen, and contains bibliographies and many clinical reports. The book may be commended to any practioner who is beginning to be interested in phylacogen treatment. The treatment itself may have a great future before it; and the book, besides recording some of its results in one class of affections, gives an excellent idea of its general principles and practice.

Fund for the A.V.C. with the Expeditionary Force.

Dear Sir,

I now send you my fourth list for favour of publication in your paper, and I trust I may be forgiven for so considerably encroaching on your space; but I am sure it will be very gratifying to those who have so generously given, to see the results and to be able to follow the developments of the A.V.C. Comfort Fund.

I am pleased to be able to state that I have already despatched to France:

330 Shirts.
500 Pairs socks.
530 Mufflers.
225 Belts.
285 Helmets and caps.
160 Pants.
160 Vests.
197 Jerseys, Cardigans, and waistcoats.
535 Pairs mittens and gloves.

As well as large quantities of other small articles, tobacco, pipes, cigarettes, etc. Also through the kindness of Mr. E. G. Fairholme, Chief Secretary of the R.S.P.C.A., grants have been received from "The Indian Soldiers' Fund," and from "The Mayoress of Bath's Needlework Guild" of 248 blankets for Indian Syces and native soldiers serving with veterinary sections in France.

I feel I must not trespass further on your space this week, but I hope next to send you for publication some of the very grateful acknowledgments I have received from veterinary officers and men.—Yours truly,

ADELAIDE M. MOORE.

Cartington, Farnborough, Hants.
Dec. 1.

Previously acknowledged to Nov. 21	£286	16	0
per Mrs. Mettam, to Nov. 28	16	2	6
W. Perryman, Esq.	1	1	0
J. E. Kitchin, Esq.	2	2	0
J. Clarkson, Esq.	1	1	0
G. W. Davidson, Esq.		10	6
Mr. and Mrs. Willett	2	2	0
Tedbar Hopkin, Esq.	3	3	0
Mrs. Ryan	3	5	0
Mrs. Wilson		15	0
Major E. Barry	3	0	0
Duncan Cumming, Esq.		10	6
George Gibbings, Esq.	1	1	0
James B. Manuel, Esq	1	1	0
Leonard W. Heelis, Esq.	1	1	0
George Thatcher, Esq.	1	0	0
Arnold Morphew, Esq.	1	1	0
W. T. Briggs, Esq.	1	0	0
Mrs. Rider: tobacco	3	3	0
Mrs. T. Bolton, Athlone	5	1	0
Mrs. Rachel Price	1	0	0
A Friend of the A.V.C.	10	0	0
Per Mrs. Smythe, Falmouth already published £32 9 0			
" " Further amount (Nov. 26)	4	4	6
	£350	1	0

Garments and Gifts received since List published Nov. 21st:—

Mrs. and Miss Gwenyth Walker: Scarves, mittens, socks, body belts.
Mrs. and Miss Dorothy Fennel: Scarves and mittens.
Mrs. Willett: mufflers, scarf, caps, socks, mittens.
Mrs. Temple: Scarves, body belts, bandages, and socks.
Mrs. D. Bolton (second parcel): Shirts, scarves, mittens.
Mrs. Awde: Body belts, shirt, socks, muffler, mitts, towels, soap, handkerchiefs, cigarettes, matches.
per Mrs. R. R. Hedley, from Working Party, Kirkwhelpington Parish: Flannel shirt, socks, mittens, body belts, pillows.
per Mrs. Burke Savage, from an old lady of 82: Socks, body belts.
Mrs. Prince: Muffler, mitts.
Mrs. Moscrop (third parcel): Socks, bed-socks, mufflers, shirt, mittens,
Duncan Cumming, Esq.: Socks.
Miss Prince: Muffler and mits.
Miss Patience Cockerell (third parcel): Cardigans and gloves.
Midland Counties Veterinary Medical Association, per Henry Dawes (F), Hon. Sec.: 2 doz. vests, 2 doz. pants, 3 doz. pairs socks.
Miss England: Mufflers, socks, mittens.
Mrs. Eastwood: Socks.
Mrs. Edmondson: Socks, helmet, handkerchieves.
Mrs. Smythe (third parcel): Mufflers, socks, belts, caps, mittens, handkerchieves.
Mrs. Wadley: Socks, mufflers, helmets.
"The Maidservants at Glenbrae": Socks, mittens
Mrs. Gibson: Cigarettes.
Mrs. Ringwood: Socks, body belts.

Mrs. Dick: Socks, belts, helmets.
Mrs. Shelton Jones: Helmets, body belts.
The Warrington Women's Liberal Association: Shirts, socks.
Mrs. Fearnside (second parcel): Mufflers, socks, belts, mittens, handkerchieves, pipes, etc.
Mrs. H. E. Richardson: Vests, pants, mufflers, belts, socks, mittens, handkerchiefs, notepaper, pencils.
per Mr. George Thatcher: Scarves, mittens, belts.
J. Ewing Johnston: Socks.
Mrs. K. L. Todd: Shirts, socks, mits.
Cozens Garry, Esq. (F): Mittens, helmets, cuffs, pipes, socks, cigarettes, caps.
Mrs. Fowler: Long stockings, mufflers, mittens.
Miss Harper: Helmets, mufflers, body belts, socks, gloves.
Mrs. Wadley (second parcel): Mufflers, socks, handkerchieves.

Collection for Mrs. Moore's Fund per Mrs. Mettam, R.V.C.I., Dublin (6th List).

Previously acknowledged	£98	1	0
North of Ireland Vety. Medical Association	£5	5	0
E. C. Morgan, Esq.	£1	0	0
J. J. Pomeroy, Esq.	10	6	
(Used to purchase sleeping helmets).	1	10	6
Total of the Fund £356 16 6.			

Per Mrs. K. J. S. Dowland, Shrewsbury, from self and Mrs. K. E. S. Dowland, Loughborough, and Miss Richardson, Hawick: 6 mufflers, 4 body belts, 6 pairs mittens, 1 pair socks.
Mrs. Huston, Armagh (second donation): 4 mufflers, 1 pair socks.
A friend. 1 pair socks.
Miss Buchanan, Glasgow: 3 mufflers.
Mrs. Stirling, Derby: 6 pairs socks.
Mrs. Allen Baker, Bansha, Co. Tipperary: 3 mufflers. 4 pairs socks, 1 body belt.
Total.—14 sleeping helmets, 14 pairs socks, 16 mufflers, 5 body belts, 6 pairs mittens, 14 helmets.

National Horse Shortage—Authoritative Opinions.

That the problem of a grave shortage of horses in the time of a national emergency is both vital and pressing has been made evident for some months. Time and again the topic has been raised in Parliament, with a view to persuading those in authority to safeguard the country by making sure that in times of emergency there shall be a sufficient supply. For some time past *Country Life* has been pursuing an agitation in the same direction; in Saturday's issue of that journal a number of authorities upon the question give expression to their opinions.

Mr. Dudley C. Ward advocates that every man who owns a sound mare of really good conformation—over 13 h. 2 in. high, and other than a heavy cart mare—should be given by the Government a small sum annually so long as the mare produces a live foal. The service fee should also be given. If on inspection the following April the yearling gives indications of having been properly housed and fed, another small premium should be given, and this should be repeated the following April. It must, however, be insisted, Mr. Ward says, that the mares must be suitably mated in order to win the premiums.

The Earl of Harrington suggests putting a tax upon every horse that goes out hunting, say, of £2. He further suggests that on any horse that has been out for one training with Yeomanry or other forces, and holds a certificate from the commanding officer, there should be paid a tax of £1, but if he has been out and holds a certificate for two trainings he should be branded, and no tax be paid. A register of all these branded horses should be kept, so that in the event of war they could be looked up at once. Lord Harrington thinks the sending of good mares to the front, a practice which is going on even now, should be at once stopped.

Major-General Sir Henry Ewart expresses the opinion that each year a veterinary expert should be sent by the Government to every breeding district to inspect the yearlings bred by the farmers and breeders generally, and that the owners of all promising young stock should be offered 3s. a week for each foal until it is three years old, with the understanding that the Government is to have the refusal of it at that age for, say, £25, if again approved of by the Government expert. If the Government bought land and set up large breeding establishments, the land would become tainted in course of time and have to be ploughed up and completely rested from horses. "While I was Crown Equerry to the late King," says Sir Henry Ewart, "this happened at Hampton Court paddocks, and for several years the breeding of hacks, carriage horses, and chargers had to be completely discontinued."

Mr. H. W. Gilbey considers (1) no more mares should be sent out of the country, and (2) mares of any value that have not been too seriously injured at the front should be reshipped home for breeding purposes.

Captain Godfrey Heseltine, Master of the Essex Union Foxhounds, holds that the Government at the present time, by introducing a bill to make M.F.H.'s liable for poultry losses by law, are putting the last nail in the coffin of fox-hunting. Unless the Government are prepared to start large breeding establishments of their own, the death of fox-hunting will assuredly entail the end of light horse breeding.

Lord Ashtown is strongly in favour of King's premiums being given to Cleveland bays, Yorkshire coach horses, and hackney stallions. Owing to the neglect of the Government in not assisting the hackney, breeders are inclined to go for the harness type only, and the result is that shoulders are not thought so important. He contends that this is most unfortunate, because if hackney stallions with riding shoulders were encouraged and used to cross the light hunter mares, the fillies would breed splendid riding horses and the geldings would pay the breeder.

Mr. F. Forester makes the following suggestions: (1) Do away with premium stallions, and let the Government supply these to serve tenant farmers' approved mares free; (2) subsidise all approved foaling mares, the property of tenant farmers, either served or to be served by these stallions; sum suggested £10 10s. per annum.

Lieut.-Colonel H. G. Henderson thinks there are four essentials to be established: (1) Retention of suitable mares in these islands and their allocation; (2) restriction in the matter of unsuitable stallions being allowed to travel; (3) a clear understanding among the horse-breeding community as to type of horse required; and (4) some guarantee for the sale of produce and its marketing.

Sir E. J. W. Pryse feels certain it would pay the country far better to give more for remounts and knock off the amounts squandered on officials.

Mr. Penn C. Sherbrooke says the only obstacle he sees in the future is the lack of mares. That obstacle is even more serious now than before, as so many mares had been taken for Army purposes. His opinion is that thoroughbred mares, of which there will still be plenty, and half-bred stallions might solve the difficulty after the war is over.

The bringing home of injured mares from the front has been adopted by the authorities. That step, however, will go but a short way towards solving the serious shortage of the future.—*The Daily Telegraph.*